

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An evaporative emission control system for a hybrid vehicle, comprising:

a scrubber having an inlet and an outlet;

a pair of opposing electrodes disposed adjacent the respective inlet and outlet;

containing an activated carbon fiber material disposed between said pair of electrodes and configured selected to adsorb butane and/or pentane isomer vapors in low concentrations in air passing through the scrubber and to form a circuit with the electrodes;

wherein when the circuit is closed, current passes from one of said pair of electrodes through said activated carbon material is between and in contact with electrodes of a circuit that can be closed to provide to the other of said pair of electrodes and provides resistive heating of the activated carbon fiber material.

2. (original) An evaporative emission control system for a hybrid vehicle according to claim 1, wherein the activated carbon fiber material has an average fiber diameter of from about 8 to about 10 microns and has an average pore diameter of up to about 20 Angstroms.

3. (original) An evaporative emission control system for a hybrid vehicle according to claim 1, wherein the activated carbon fiber material is derived from novoloid fiber material.

4. (original) An evaporative emission control system for a hybrid vehicle according to claim 1, wherein said electrodes comprise copper or steel surfaces in contact with the activated carbon fiber material.

5. (original) An evaporative emission control system for a hybrid vehicle according to claim 1, wherein the activated carbon fiber material comprises activated carbon fibers in a form selected from the group consisting of pleated sheets, chopped fibers, fluffy webs, and combinations thereof.

6. (currently amended) A hybrid vehicle, comprising an internal combustion engine and an electric motor, the hybrid vehicle further comprising:

a fuel tank for storing a volatile fuel for the internal combustion engine;
a primary canister having one or more chambers containing activated carbon granules, said canister having a vapor inlet coupled with the fuel tank, a purge inlet coupled to an air induction inlet for the internal combustion engine, and an air inlet, wherein said one or more chambers are located between the vapor inlet and the air inlet; and

~~a scrubber canister containing activated carbon fiber material coupled to said air inlet, said scrubber canister being equipped with activated carbon fiber material disposed between opposing conductive metal end plates such that when a closed circuit is formed, current flows between said plates and through said activated carbon fiber material, heating said activated carbon fiber material to a desired temperature via resistive heating apparatus for heating said activated carbon fiber material to a desired temperature;~~

wherein said activated carbon fiber material has an average fiber diameter of from 8 to 10 microns and pore diameters predominantly from 14 to 22 Angstroms.

7. (original) A hybrid vehicle according to claim 6, wherein the activated carbon fiber material is derived from novoloid fiber material.

8. (cancelled)

9. (original) A hybrid vehicle according to claim 6, wherein the activated carbon fiber material comprises activated carbon fibers in a form selected from the group consisting of pleated sheets, chopped fibers, fluffy webs, and combinations thereof.

10. (currently amended) A method for reducing bleed emissions from an evaporative emission control system for a hybrid vehicle having an internal combustion engine and an electric motor, comprising:

venting the evaporative emission control system to a scrubber containing an activated carbon fiber material disposed between opposing conductive electrodes and forming a circuit, the fiber material being capable of adsorbing butane and/or pentane isomer vapors in low concentrations in air;

closing the circuit and passing an electric current through the activated carbon fiber material;

maintaining the current and heating the activated carbon fiber material containing adsorbed vapors to a desired temperature; and

purging vapors from the scrubber for combustion in the internal combustion engine by passing intake air for the internal combustion engine through the heated activated carbon fiber material during operation of the internal combustion engine.

11. (original) A method according to claim 10, wherein the activated carbon fiber material has an average fiber diameter of from about 8 to about 10 microns and has an average pore diameter of up to about 20 Angstroms.

12. (original) A method according to claim 10, wherein the activated carbon fiber material is derived from novoloid fiber material.

13. (original) A method according to claim 10, wherein said heating step is carried out at a time when intake air is not being passed through the activated carbon fiber material.

14. (original) A method according to claim 10, wherein the heating step and the purging step are carried out consecutively and repeated a desired number of times during operation of the internal combustion engine.